II. REMARKS

A. Introduction

In this Office Action claims 2-6 are noted as pending and are rejected based on prior art.

As a point of clarification, claims 1 and 6 have been canceled in the February 23, 2005 and June 21, 2005 Responses, respectively.

In summary of this Response, pending claims 2-5 have been amended, new claim 7 has been added, and remarks are provided.

More particularly, claim 2 has been amended to make clear that it is the ice maker (including the water supply, etc.), and not just the motor, that is cut off from electricity by the switch connected to the ice maker. See, e.g., page 8, line 25. Also, new claim 7 recites the linearity of the sensing lever, as supported by, e.g., Figs. 1-4.

B. Rejection of Claims 2-5 Under 35 U.S.C. §103

These claims are rejected as being rendered obvious by a combination of O'Connell et al., U.S. Patent No. 3,309,892, Bauerlein, U.S. Patent No. 3,580,007 and Cover, U.S. Patent No. 6,418,736.

O'Connell et al. is cited for teaching the recited invention except for at least the first and second pulleys and the sensing lever. It is alleged obvious to use the pulleys of Bauerlein in O'Connell et al. to provide "more stable support for the belt." As for the missing sensing lever in the O'Connell et al. and Bauerlein combination, Cover is cited for teaching a sensing lever 14 with a first end 20 moved upwardly by a predetermined amount of ice in the storage tray, and a second end 18 moved towards a switch 16. It is concluded that it would have been obvious to use the Cover sensing lever 14 as a replacement for the sensing lever 135 of O'Connell et al. to maximize compactness.

For the following reasons, it is respectfully submitted that the present invention, as recited by amended claims 2-5, and new claim 7, was not rendered obvious by the cited combination.

Even assuming the O'Connell et al. structure with the "sensing arm" 135 would be modified by Bauerlein to include belt pulleys, it is not believed the present invention is rendered obvious by this combination and Cover's "sensing lever 14."

The present invention as recited by amended independent claim 2 relies upon not only an end of a sensing lever being moved toward a switch, but a cam directly urging the sensing lever against the switch. Further, claim 2 recites that the switch shuts off the electricity, when the switch is pressed by the sensing lever over a predetermined period.

O'Connell et al.'s "cube feeling arm" 135 is operatively connected to a bin feeler arm 92 via a spring 121. That is, when the bin 83 is in the freezer, as noted above Col. 4, lines 55-60, the spring 121 under tension overcomes the force of a counterweight 138 on an opposite end of the arm 135. This causes a roller follower 131 of a switch assembly to engage an eccentric 133 and oscillate for as long as the cube feeler 135 is free to move, and thereby allow the ice maker to operate normally. Col. 4, lines 55-74. However, when the ice gets to a predetermined level, the oscillating movement of the arm 135 is prevented, and the switch assembly is spaced from the eccentric, which causes the switch 125 to cut off electricity to the motor. Later, when ice is removed from the bin by the user, the eccentric/roller following relationship is regenerated to allow more ice to be made.

Cover's member 14 is merely an angled "actuator lever" that is pivotally mounted on a bracket 12. One end 20 of the lever 14 is intentionally heavier so that it pivots by gravity in the direction "CC" shown in Fig. 2. See, e.g., Col. 3, lines 59-64 and Col. 5, lines 64-67. This necessarily causes the integral other end 18 of the actuator 14 to advance toward the switch 32, causing the ice maker to operate and make ice. When ice accumulates, the first end 20 is caused to move in the opposite direction "F" (Fig. 3), similarly moving the first end 20 counter-clockwise, which is spaced from and de-activates the switch. See, e.g., Col. 5, lines 41-45 and 64-67 and Col. 6, lines 1-3.

There is simply no cooperation between a drive unit for the ice maker (one is not even shown in Cover) and the lever 14, such as a cam driven by the drive unit to move the second end 18 of the lever 14 toward the switch 16. Further, there is clearly no cam which is "rotated by a force transmitted from the drive unit to directly contact and urge the second end of the sensing lever down to press against the switch, when the sensing lever is in the first position and turn off the electricity to the ice maker", as recited in claim 2. The Cover end 18 is never urged between a cam and an actuated switch.

That Cover fails to teach or suggest these features is underscored by the fact that the lever 14 of Cover never has to even contact the switch 16 in order for the device to work. See, e.g., the embodiments shown in Figs. 6-8 and 9-10, wherein the second end 18 need only be adjacent to the switch, since the switch can operate by magnetics or sensing proximity. Col. 4, lines 6-10 and 33-35 and Col. 5, lines 30-33.

The Action fails to suggest how the cube feeler arm 135 of O'Connell et al. would be physically and realistically replaced by the lever 14 of Cover. Cover's lever 14, as noted above, does not rely upon any assistance by a drive unit or cam for operation, doesn't even require contact with a switch, and operates by gravity, not spring force interaction.

Note also that the ice sensing mechanism of O'Connell et al. has three parts, each with a separate function: the weighted 138 extension 136 which could correspond to the weighted first end 20 of Cover; the switch holder 123 which is associated with the switch 125 and which could correspond to the second end 18 of Cover; and the feeler arm 135 which is responsible for sensing the level of the ice being made, but which would not appear to have any equivalent in Cover. On the other hand, if the switch holder 123 of O'Connell et al. is the equivalent of the second end 18 of Cover, then there would not appear to be a member that is associated with the switch 16. Thus, even directly substituting the lever 14 of Cover for the sensing mechanism of O'Connell et al. (and even disregarding the complexities and potential inoperabilities raised by O'Connell et al.'s need for the cooperation of the sensing mechanism with the biased bin feeler arm 92), fails to accommodate the needs of the O'Connell et al. device

Finally, new claim 7 recites the linearity of the sensing member of the present invention, which linearity facilitates pivoting of the lever and direct action by the ice, and on the switch, and which linearity is absent from the O'Connell et al.'s, Bauerlein's or Cover's arms 135, 80 and 14, respectively.

III. CONCLUSION

In view of the foregoing actions taken by Applicant, it is believed this Response places this application in condition for allowance, and therefore should be entered and a Notice of Allowance issued for claims 2-5 and 7.

If there are any remaining formal matters that need to be attended to in this application, it is requested that the Examiner contact the undersigned attorney at the below-identified telephone number at the Examiner's convenience.

If any additional fee is required in connection with the filing of this Response, please charge same to our Deposit Account No. 19-3935.

Respectfully submitted,

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